What is claimed is:

1. A cathode for an electron tube, comprising:

a base metal; and

an electron emissive material layer attached on said base metal, said electron emissive layer including a surface roughness measured from a distance between a highest point and a lowest point of the surface of said electron emissive material layer, being controlled to be less than or equal to 8 microns.

2. The cathode of claim 1, further comprised of the surface roughness distance being less than or equal to 5 microns.

3. The cathode of claim 1, further comprised of the density of said electron emissive material layer being 2 to 5 mg/mm^3.

4. The cathode of claim 1, further comprised of the thickness of the electron emissive material layer being from 20 to 70 microns.

5. The cathode of claim 1, further comprised of said electron emissive material layer being attached on said base metal by one method selected from the group consisting essentially of printing and deposition.

6. The cathode of claim 1, further comprised of said electron emissive material layer being attached to said base metal by a screen printing method.

7. A method of preparing the cathode for an electron tube of claim 1, the method comprising the steps of:

preparing a paste comprising 40 to 60% by weight carbonate powder, 30 to 50% by weight solvent, and 1 to 10% by weight binder, based on the total weight of said paste; and

attaching said paste on said base metal using one member selected from the group consisting essentially of screen printing, painting and roll coating.

8. The method of claim 7, further comprised of said solvent being one member selected from the group consisting essentially of terpinol, butyl carbitol acetate, and a combination of terpinol and butyl carbitol acetate.

9. The method of claim 7, further comprised of said binder being one member selected from the group consisting essentially of nitrocellulose and ethylcellulose.

10. A method, comprising the steps of:

mixing carbonate powder, solvent, and binder to form a paste;

applying said paste on a base metal of a cathode for an electron tube to form an electron emissive layer of said cathode, said paste to form an electron emissive layer for said cathode;

controlling a surface roughness measured from a distance between a highest point and a

lowest point of the surface of said electron emissive material layer to be less than or equal to 8 microns.

11. The method of claim 10, with said step of controlling the surface roughness further comprised of the surface roughness being controlled to be less than or equal to 5 microns.

12. The method of claim 10, with said step of mixing carbonate powder, solvent, and binder to form a paste, further comprised of carbonate powder being 40 to 60% by weight carbonate powder, 30 to 50% by weight solvent, and 1 to 10% by weight binder, based on the total weight of said paste.

13. The method of claim 10, further comprised of said solvent being one member selected from the group consisting essentially of terpinol, butyl carbitol acetate, and a combination of terpinol and butyl carbitol acetate.

14. The method of claim 10, further comprised of said binder being one member selected from the group consisting of nitrocellulose and ethylcellulose.

15. The method of claim 10, further comprising the step of controlling the thickness of the electron emissive layer to be 20 to 70 microns.

16. The method of claim 10, with said step of applying said paste on said base metal

further comprising of apply said paste by one member selected from the group consisting of printing and deposition.

17. The method of claim 10, with said step of applying said paste on said base metal further comprising of apply said paste by screen printing and said step of controlling the surface roughness by screen printing.

18. A method, comprising the steps of:

mixing carbonate powder being 40 to 60% by weight carbonate powder, 30 to 50% by weight solvent, and 1 to 10% by weight binder to form a paste, based on the total weight of said paste; and

printing said paste on a base metal of a cathode for an electron tube to form an electron emissive layer of said cathode.

19. The method of claim 18, further comprised of said printing being screen printing.

20. The method of claim 18, further comprising the step of controlling a surface roughness of said electron emissive layer to a predetermined distance, the surface roughness being measured from a distance between a highest point and a lowest point of the surface of said electron emissive material layer.